REMARKS

Claims 1-6 are pending in this application. By this Amendment, claim 1 is amended. Support for the amendments to claim 1 can be found in claim 1 as originally filed. No new matter is added by these amendments.

Applicant appreciates the courtesies shown to Applicant's representative by Examiner Bolden during the January 12, 2006, telephonic interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

I. Rejections Under 35 U.S.C. §102 and 35 U.S.C. §103

A. Inoue

The Office Action rejects claims 1-6 under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over Japanese Patent Application Publication No. 60-221338 to Inoue. Applicant respectfully traverses the rejection.

Independent claim 1 sets forth, in pertinent part, an "optical glass comprising: more than 5 to 15 mass % of SiO_2; 20 to less than 30 mass % of B_2O_3; a total amount of SiO_2 + B_2O_3 being more than 25 to 40 mass %; more than 21 to less than 30 mass % of La_2O_3; more than 5 to 15 mass % of Y_2O_3; 0 to less than 10 mass % of Gd_2O_3; 1 to 8 mass % of ZrO_2; 0.1 to 5 mass % of Nb_2O_5; more than 5 to 12 mass % of Ta_2O_5; a total amount of ZrO_2 + Nb_2O_5 + Ta_2O_5 being 7 to 20 mass %; 0 to 10 mass % of ZnO; 0 to 10 mass % of CaO 0 to 5 mass % of SrO; 0 to 10 mass % of BaO; a total amount of ZnO + CaO + SrO + BaO being 5 to 15 mass %; 1 to 8 mass % of Li_2O; 0 to 1 mass % of Sb_2O_3; and 0 to 1 mass % of As_2O_3; wherein the optical glass has optical constants which are a refractive index (nd) in a range of 1.70 to 1.75 and an Abbe number (νd) in a range of 45.0 to 54.0; wherein a glass transformation temperature (Tg) of the optical glass is in a range of 500 to 580°C; wherein the optical glass is substantially free of Yb_2O_3 and Al_2O_3, and devitrification is not generated

when the optical glass is kept at a temperature of 920°C for two hours." Claims 2-6 depend, directly or indirectly, from and include all of the limitations of claim 1.

Inoue teaches an optical glass, with an Abbe number of 35 to 65 and a refractive index of 1.62 to 1.85, that includes single components present in ranges that overlap those of single components of the claimed optical glass. *See* Inoue, page 4, lines 3-6; page 5, line 23 - page 6, line 7. Based on these disclosures, the Office Action takes the position that claim 1, and its dependent claims, are anticipated by or would have been rendered obvious over Inoue.

However, Inoue does not disclose and does not suggest the claimed optical glass. In particular, Inoue does not disclose or suggest the compositional ranges of component groups, $SiO_2+B_2O_3$, $ZrO_2+Nb_2O_5+Ta_2O_5$ and ZnO+SrO+CaO+BaO, as set forth in claim 1. *See generally* Inoue. The claimed optical glasses, which result from the combination of single components in the claimed amounts and components groups within claimed amounts, demonstrate good optical properties and superior resistance to devitrification. Inoue does not teach or even suggest specific compositional ranges for groups of its components. *See generally* Inoue.

In addition and as discussed in the instant specification, Inoue does not provide an optical glass having a sufficient devitrification resistance to form a glass preform material, even though Inoue's objective is to improve resistance to devitrification. *See* Specification, paragraph [0013]. That is, Inoue does not disclose or suggest optical glasses in which "devitrification is not generated when the optical glass is kept at a temperature of 920°C for two hours," as required by claim 1. In particular, Inoue's Examples 23, 27, 31, 37 and 25, respectively, correspond to Comparative Examples A-E of the instant specification. *See* Inoue, page 10, line 8 - page 16, line 10; Specification, Table 3. Although the optical glasses of Comparative Examples A-E do not show devitrification at 1000°C for two hours, these

optical glasses show devitrification inside the glasses when kept at 920°C for two hours. *See* Specification, paragraphs [0047], [0048], Table 5.

Because the optical glasses of Comparative Examples A-E correspond to the optical glasses of Examples 23, 27, 31, 37 and 25, respectively, of Inoue, and because devitrification is generated in these optical glasses when the optical glass is kept at a temperature of 920°C for two hours, Inoue does not teach and does not suggest an optical glass meeting all of the limitations of independent claim 1. Thus, independent claim 1 and its dependent claims are patentable over Inoue for at least the above reasons.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Kido

The Office Action rejects claims 1-6 under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over Japanese Patent Application Publication No. 10-226533 to Kido et al. Applicant respectfully traverses this rejection.

Claim 1 is as set forth above; claims 2-6 depend, directly or indirectly, from claim 1 and include all of the limitations thereof.

Kido discloses a radiation shielding glass that includes single components present in ranges overlapping those of single components of the claimed optical glass. *See* Kido, Abstract; [0009], [0012]-[0026]. Based on these disclosures, the Office Action takes the position that claim 1, and its dependent claims, are anticipated by or would have been rendered obvious by Kido.

However, Kido does not disclose and does not suggest the claimed optical glass. In particular, Kido does not disclose or suggest an optical glass in which combinations of single components, $SiO_2+B_2O_3$, $ZrO_2+Nb_2O_5+Ta_2O_5$ and $ZnO+SrO+CaO+BaO$, are present in the claimed amounts. *See generally* Kido. Rather, Kido teaches a radiation shielding glass in

which the total amount of any group of components is not disclosed. Kido provides only eight examples of its radiation shielding glasses, and no single example disclosed in Kido meets the compositional limitations of claim 1 with respect to either single components or component groups. *See* Kido, Table 1. For example, none of Kido's Examples satisfy the limitations regarding the amounts of Nb_2O_5 and Ta_2O_5 as individual components. *Id.* Because Kido does not teach, and does not suggest, the claimed compositional ranges for at least the component groups set forth in claim 1, Applicants respectfully submit that Kido does not teach or suggest at least this feature of claim 1.

Further, Kido relates to radiation shielding glass, a field and application very different from that of the claimed optical glasses, and Kido does not disclose whether its glasses have properties essential to optical glasses, such as transparency. *See generally* Kido. Kido is silent with respect to the claimed optical properties of refractive index, Abbe number and devitrification resistance. *Id.* As discussed above, the claimed optical glasses result from having both single components in the claimed amounts and groups of specific components in claimed amounts, and can demonstrate good optical properties and superior resistance to devitrification. Because of the different industrial field in which the Kido glasses are used, one of ordinary skill in the art would not be motivated to use the Kido glasses as optical glasses, or to optimize the amounts of Kido's disclosed components to prepare an optical glass having the claimed optical properties.

For at least the above reasons, Applicant respectfully submits that independent claim 1 and its dependent claims 2-6 are patentable over Kido. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Double Patenting

The Office Action rejects claims 1-6 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent

No. 6,558,316 to Kikuchi et al. As discussed during the January 12 telephonic interview, the Kikuchi patent was cited in error. The rejection was corrected to reject claims 1-6 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,753,281 to Uehara.

However, the cited reference and the instant application, which is a divisional application of the application that issued as the Uehara patent, were, at the time of the invention disclosed and claimed in the instant application, owned by Kabushiki Kaisha Ohara. Although Applicants do not necessarily agree with the rejection, in response to the provisional obviousness-type double patenting rejection, Applicant attaches hereto a Terminal Disclaimer. Applicant submits that, in light of the Terminal Disclaimer, the rejection is moot. Applicant respectfully requests withdrawal of the rejection.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

William P. Berridge
Registration No. 30,024

Julie M. Lake
Registration No. 51,156

WPB:JML/ccs

Attachment:
Terminal Disclaimer

Date: March 14, 2006

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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